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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,177	08/27/2003	Rainer Gadow	4965-000161	4785

27572 7590 12/01/2004

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EXAMINER

PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,177

Applicant(s)

GADOW ET AL.

Examiner

Sang Y Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Guan (US 5,725,826).

Guan shows a ceramic vessel having a ceramic cooktop made of clay which is known in the art as an aluminum silicates that are a type of glass ceramic materials, an electrical heat conductor layer (40), an insulating layer (12), and an annular groove (13) surrounding a rim area of the insulating layer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3 and 5-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 3,978,315) in view of Mizunoya et al (US 4,693,409) or Bube (US 4,273,822), and Lorenz et al (US 4,960,978) or Baudry et al (US 4,973,826).

Martin et al shows the ceramic cooktop claimed cooktop (1) made of glass ceramic, an intermediate electrically conductive layer (2) made of a cermet material having a metal matrix of

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cobalt and a ceramic material including ceramic oxides, an insulating layer (3) made of cordierite, and a heat conductor layer (4). Martin et al further shows that the glass coating on the ceramic glass and the conductive layer are provided utilizing the known methods which would include spraying. However, Martin et al does not show a bonding layer on a selected surface of the cooking plate with the intermediate layer is located on the bonding layer.

Bube shows a bonding layer in the form of a glazing paste having alumina in the thickness of 2 to 12 micrometers applied to a ceramic substrate to bond a metal layer onto the ceramic plate. Mizunoya et al shows a metal oxide bonding agent layer in the thickness of 20 microns formed on the ceramic plate to bond the ceramic plate with a metal layer. In view of Mizunoya et al or Bube, it would have been obvious to one of ordinary skill in the art to adapt Martin et al with the bonding layer to further securely bond the ceramic substrate and the metallic layer such as the cermet intermediate layer.

Lorenz et al and Baudry et al shows the heating elements with its associated insulating and heat conducting layers are selectively provided on the cooktop. In view of Lorenz et al or Baudry et al, it would have been obvious to provide Martin et al, as modified by Mizunoya et al or Bube, with the bonding layer as well other layers be applied in a selected area where the heating zone is selected.

With respect to claims 6, 7, 11 and 12, Bube further teaches that the thicker the bonding layer, stronger the bond between the metal layer and the ceramic substrate, and it would have been obvious to one of ordinary skill in the art to provide the bonding layer having the claimed thickness to further enhance the bonding strength.

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5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al in view of Mizunoya et al or Bube, and Lorenz et al or Baudry et al, as applied to claims 1, 3 and 5-15 above, and further in view of Strange (US 5,728,638).

Martin et al in view of Mizunoya et al or Bube, and Lorenz et al or Baudry et al discloses the ceramic cooktop claimed except the intermediate layer is made titanium oxide.

Strange shows a cermet material having titanium oxide (titania). Strange shows that its cermet material provides a mechanically strong material with corrosion and wear resistance properties.

In view of Strange, it would have been obvious to one of ordinary skill in the art to adapt Martin et al, as modified by Mizunoya et al or Bube, and Lorenz et al or Baudry et al, with the intermediate layer made with titania to provide a mechanically strong material that also has corrosion and wear resistance properties.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al in view of Mizunoya et al or Bube, and Lorenz et al or Baudry et al, as applied to claims 1, 3 and 5-15 above, and further in view of Alexander (US 3,110,571).

Martin et al in view of Mizunoya et al or Bube, and Lorenz et al or Baudry et al discloses the ceramic cooktop claimed except the claimed composition of the bonding layer made of the claimed alumina and titania.

Alexander shows that the elements such as alumina and titania are well known in the art that such materials can be alternatively used as the bonding material or the mixtures thereof.

While Alexander does not show the claimed composition, it would have been obvious to use it alone or mix such alternatively suitable bonding materials since they compose similar bonding

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properties to adequately provide the bonding properties, and it would further have been obvious to mix such materials if and when other material is not readily available.

Response to Arguments

7. Applicant's arguments filed 9/1/04 have been fully considered but they are not persuasive.

The applicant argues that the applied prior art does not teach the thermal spraying by which the ceramic bonding layer is formed or coated on the cooking plate. It is noted to the applicant that the claims that are pending in this application relate to an apparatus, and it is further noted that the determination of the patentability of an apparatus is based on the product itself and not on its method or process. Furthermore, the applied reference Martin et al teaches that the coating or printing of a material can be done by means of spraying or any other conventional techniques. Marin et al allows one of ordinary skill in the art to employ various coating techniques to produce the coated or printed layer. The applicant states that the thermal spraying which produces a high impact velocity and heat leads to better mechanical adhesion. However, there is no structural difference that would distinguish the prior from the claimed structure. Furthermore, the applicant has not stated how the thermal spraying process would be different from the spraying method disclosed by Martin et al. With respect to other applied prior art, it is noted to the applicant that they are not applied to teach the thermal spraying method but to further supplement or modify the structures of Martin et al to meet the claimed structure of the applicant's apparatus.

It is noted that Flaitz et al mentioned in the remark is not one of the prior art that was applied by the examiner.

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With respect Guan, it is noted as stated in the ground of rejection that clay is a type of glass ceramic material including aluminum silicates, and the recited element of the thermally sprayed insulating layer is met by the insulation layer (12) of Guan. Also, since the recitation "thermally sprayed" is a process in a product claim, the determination of patentability of the product claim depends on the structures of the product and not by the method even though prior product may be made by a different process.

Thus, the applicant's arguments are not deemed persuasive.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 517-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. R.

Sang Y Paik
Primary Examiner
Art Unit 3742

syp